

Serial No. 10/550,973  
Atty. Doc. No. 2003P03398WOUS

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REMARKS

Claims 8 – 10 and 12 remain in the application. In the outstanding office action the drawings were objected to, claims 8, 12, 13 and 14 were rejected under 35 USC 102(e) as being anticipated by Lee '003, claims 9 and 10 were rejected under 35 USC 103(a) as being unpatentable over Lee '003 in view of Jones, and claim 11 was rejected under 35 USC 103(a) as being unpatentable over Lee '003 in view of Lee '499.

The objection to the drawings is moot in view of the above amendment to the claims. For example, claim 9 now requires that “at least one cooling passage is positioned at an angle with respect to the radial direction” as shown in Figure 3 and described at paragraph [0037]. Claim 10 requires that the at least one cooling passage is “positioned in an axial direction relative to the radial direction.” See Fig 3.

Corrections have been made to the specification per the Examiner's comments.

Claim 8 had been rejected under Section 102 based on Lee et al. (US 6,617,003). The claim is now amended to require structure not found or suggested in the prior art. That is, at least one cooling passage includes “an undercut within the substrate relative to the substrate surface” as illustrated in Figure 5. Although the Office Communication identifies triangular shaped cross sections in the Lee reference, no structures having undercuts relative to the substrate surface are shown formed in the substrate (or the bond coat) and there is no suggestion in the references as to how such a structure could be formed in the substrate. In fact, Lee '033 actually teaches away from this limitation by showing the triangular-shaped cooling passages that are placed only half way into either the bond coat surface (FIG. 6) or the substrate surface (FIG. 4). This arrangement greatly reduces the surface area that is available for bonding to the overlying layer. In contrast, the present claim 8 is directed to an undercut cooling passage as shown in Figure 5 of the present application that minimizes the loss of substrate surface area that is available for bonding to the above-lying coating, yet at the same time locating the cooling passage directly at the surface to maximize the cooling efficiency. It is only applicant who teaches this inventive subject matter.

Claims 9, 10 and 12 are also distinct and non-obvious over the prior art. The combination of limitations in claim 9 includes the additional feature of having “at least one cooling passage ...

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at an angle with respect to the radial orientation." According to the combination of claim 10, the coolable layer "extends in a radial direction and at least one cooling passage is positioned in an axial direction relative to the radial orientation." According to claim 12, "at least one cooling passage is arranged at least partially within the coating." These combination of features are lacking from the cited prior art.

Conclusion

Applicant respectfully requests allowance of the present application in view of the foregoing amendments.

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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